

IN THE CLAIMS

1. (original): A process for making an electronic device comprising a dielectric substrate laminated with an electrically conductive metal or alloy which comprises applying a non-aqueous etch-resistant ink by ink jet printing to selected areas of the metal or alloy, exposing the etch-resistant ink to actinic radiation and/or particle beam radiation to effect polymerisation, removing exposed metal or alloy by a chemical etching process and then removing the polymerised etch-resistant ink by alkali wherein the etch-resistant ink is substantially solvent free and comprises the components:

- A) 30 to 90 parts acrylate functional monomers free from acid groups comprising mono or higher functionality wherein 5 – 95% by weight is one or more mono-functional monomers;
- B) 1 to 30 parts acrylate functional monomer containing one or more acid groups;
- C) 0 to 20 parts polymer or prepolymer;
- D) 0 to 20 parts radical initiator;
- E) 0 to 5 parts colorant;
- F) 0 to 5 parts surfactant; and

wherein the ink has a viscosity of not greater than 30 cPs (mPa.s) at 40°C and all parts are by weight.

2. (original): A process as claimed in claim 1 wherein the amount of mono-functional acrylate monomer is 70 - 95% by weight of component A).

3. (currently amended): A process as claimed in either claim 1 or claim 2 wherein the amount of component B) is not greater than 10 parts.

4. (currently amended): A process as claimed in ~~any one of claims 1 to 2~~ claim 1 wherein the amount of component B) is not less than 6 parts.

5. (currently amended): A process as claimed in ~~any one of claims 1 to 4~~ claim 1 wherein component B) is acrylic acid or mono-2-(methacryloyl)ethyl phthalate.

6. (currently amended): A process as claimed in ~~any one of claims 1 to 5~~ claim 1 wherein the radical initiator is a photoinitiator activated by UV light.
7. (currently amended): A process as claimed in ~~any one of claims 1 to 6~~ claim 1 wherein the ink has a surface tension of from 20 to 40 mN/m.
8. (currently amended): A process as claimed in ~~any one of claims 1 to 7~~ claim 1 wherein the viscosity of the ink is from 8 to 20 cPs (mPa.s) at 40°C.
9. (currently amended): A process as claimed in ~~any one of claims 1 to 8~~ claim 1 wherein component B) has an acid value of not less than 100mg KOH/g.
10. (currently amended): A process as claimed in ~~any one of claims 1 to 9~~ claim 1 wherein the total etch-resistant ink has an acid value greater than 30 mg KOH/gm.
11. (currently amended): A process as claimed in ~~any one of claims 1 to 10~~ claim 1 wherein the amount of polymer or prepolymer (component C)) is zero.
12. (currently amended): A process as claimed in ~~any one of claims 1 to 11~~ claim 1 wherein the amount of radical initiator is not less than 0.1 parts.
13. (currently amended): A process as claimed in ~~any one of claims 1 to 12~~ claim 1 wherein the number of parts of components A) + B) + C) + D) + E) + F) = 100.
14. (currently amended): An electronic device comprising a dielectric substrate and an electrically conductive metal or alloy which is partially coated with a non-aqueous etch-resistant ink composition by a process as claimed in ~~any one of claims 1 to 13~~ claim 1.
15. (original): An electronic device as claimed in claim 14 which has been exposed to actinic radiation.
16. (currently amended): An electronic device as claimed in ~~either claim 14 or claim 15~~ which is a printed circuit board.

17. (original): A non-aqueous etch-resistant ink for ink jet printing which is substantially free from organic solvents which comprises:

- A) 30 to 90 parts acrylate functional monomers free from acid groups comprising mono or higher functionality wherein 5 - 95% by weight is one or more mono-functional monomers;
- B) 1 to 30 parts acrylate functional monomer containing one or more acid groups;
- C) 0 to 20 parts polymer or prepolymer;
- D) 0.1 to 20 parts radical initiator;
- E) 0 to 10 parts colorant;
- F) 0 to 5 parts surfactant; and

wherein the ink has a viscosity of not greater than 30 cPs (mPa.s) at 40°C and all parts are by weight.

18. (original): A non-aqueous etch-resistant ink for ink jet printing which is substantially free from organic solvents which comprises:

- A) 30 to 90 parts acrylate functional monomers free from acid groups comprising mono or higher functionality wherein 5 - 95% by weight is one or more mono-functional monomers;
- B) 1 to 30 parts acrylate functional monomer containing one or more acid groups;
- C) 0 to 20 parts polymer or prepolymer;
- D) 0.1 to 20 parts radical initiator;
- E) 0 to 10 parts colorant; and
- F) 0 to 5 parts surfactant;

wherein the ink has an acid value of greater than 30 mg KOH/gm and less than 120mg KOH/gm and all parts are by weight.

19. (original): An ink as claimed in either claim 17 or claim 18 wherein the acid group(s) of the acrylate functional monomer of component B) contains a carboxylic acid group(s).

20. (currently amended): An ink as claimed in ~~any one of claims 17 to 19~~ claim 17 or claim 18 wherein the number of parts of components A) + B) + C) + D) + E) + F) = 100.

21. (currently amended): A cartridge comprising a chamber and an ink wherein the ink is present in the chamber and the ink is an etch-resistant ink as claimed in ~~any one of claims 17 to 20~~ claim 17 or claim 18.